Minolta

AUTOCORD -CdS III

Service Manual

MINOLTA CAMERA CO., LTD.

Scaned by Audrius J.
http://geocities.com/autocordrepair

Introduction

The service manual is prepared for both skilled technician and beginner in instructing sequently the method of trouble shooting, disassembly and repairing. It is expected to be instructive guide for you. The service manual is consisting of 3 sections as follows:

General trouble finding chart

Disassembly method

Repairing method

The technician will be able to fix by checking every item described in General trouble finding chart.

The beginner is suggested to follow the instruction explained in the disassembly and repair sections. The part numbers of the disassembly and repair sections are based on the parts list previously presented.

Please specify part number of parts list for ordering any part.

Order to

Sevice Department of Service Division

Minolta Camera Company

18, 4-chome, Shiomachi-dori,

Minami-ku, Osaka. Japan.

How to Disassembly

A. Disassembly of meter 6

B. Disassembly of the right side plate 7

C. Disassembly of the film counter dial and
the handle gear base plate 9

D. Disassembly of the front cover and the shutter holder 11

E. Disassembly of the back cover 12

Overall defects detection table

F. Winding or film advanceing

1. The film counter cannot be advanced.
   - —Mal-engagement of the middle gear(3209) with the counter dial(3201). —— 14
   - —The middle gear(3209) being in contact with the counter return lever(3213). —— 14
   - —Mal-rotation of the friction roller shaft(3218). —— 14

2. The film counter being not reset.
   - —Malfunction of the counter return lever(3213). —— 14
   - —Disconnection of the dial gear spring(3205). —— 15
   - —Loosening of the setscrew(9005) for the film counter dial bush.(3204). —— 15

3. The warning mark being not seen even after the shutter has been charged.
   - —The reset ring arm(2021) is disconnected from the shutter set lever(30002451). —— 15

4. Unsufficient charge.
   - —The adjustment plate(3069) is lowered too much so that the crank arm connot actuate properly. —— 15
   - —The connecting of the shutter is lowered too much or has much play. —— 16
   - —The reset ring(2020) is in contact with the shutter holder(2101). —— 16
   - —Malfunction of the index lever(3040). —— 16
   - —Bending of the crank arm(3061). —— 16

5. Noise during winding up or advancing the film.
   - —Grating caused by the lower roller shaft (1007) and the lower roller shaft bush(1005). —— 16

G. Front holder working

1. Play in both of the lateral and longitudinal directions of the shutter holder (2101).
   - —Too much space between the shutter holder guide plate(2139) and the shutter holder(2101). —— 17

2. Infinity(∞) contact being improper
   - —The shutter holder(2101) makes contact with the guide plate(2139). —— 17
   - —Parallelism between the shutter holder and the guide plate being improper. —— 17

H. Viewfinder

1. Finder side plate contact when opened and closed.
   - —The finder hood base frame(5001) contacts with the front side plate(5003). —— 18
   - —The back side plate(5022) contacts with the inner frame(5028). —— 18

2. Malfunctioning of opening and closing of the viewfinder cover.
   - —Disconnection of the front side plate operation spring(5022). —— 18
   - —Disconnection of the back side plate(5022). —— 18

I. Shutter

1. The shutter release button being not released.
   - —Improper parallelism between the contact faces of the shutter holder(2101) and the charge ring(2019). —— 19
   - —The charge ring(2019) is distorted. —— 19
   - —Foreign material interposed between the actuating face between the shutter holder and the charge ring. —— 19

2. The shutter blades fails to open
   - —Blot of oil on the shutter blades. —— 19

3. Short circuit
   - Improper distance between the contacts or distance being varied during operation. —— 19
   - Foreign materials inserted between the positive and negative contacts. —— 19

4. Malfunction of returning of the shutter release button
   - The release lever-B spring(2013) is too weak. —— 20
   - Fitting between the shutter release button (2001) and the shutter release button bush (2002) is improper. —— 20
   - Foreign material being mixed between the shutter release button(2001) and the shutter release button bush(2002). —— 20

5. Heavy resistance in actuating the stop ring(2003).
   - Too much cauking of the shutter release button bush(2002). —— 20
   - When the shutter button lock ring(2003) fails to stop, replace it with a new one. —— 20

J. Back cover

1. Loose locking of the back cover. —— Too much play between the back cover lock key(1128) and the back cover lock hook(1119). —— 20

2. Too much space between the camera body and the back cover. —— Space at the lower portion of the back cover. —— 21

3. Lateral play. —— Play between the right and left fixing metals(1115) and the back cover hinge. —— 21

K. Focus adjustment

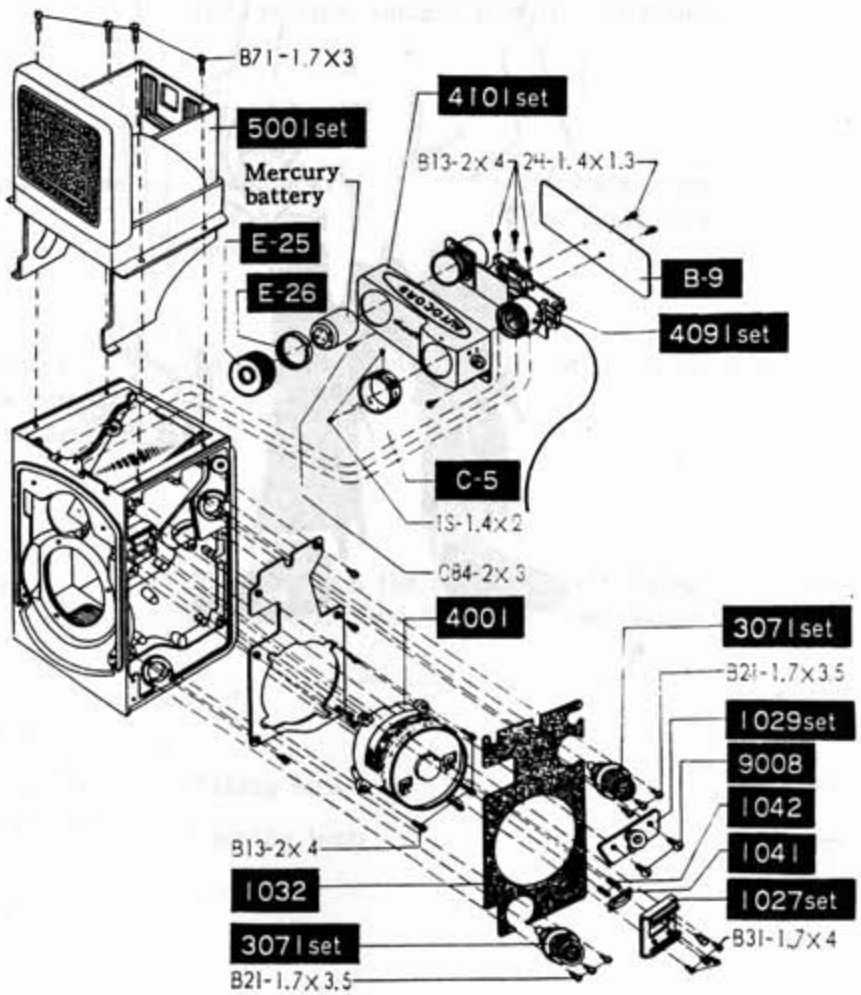
1. Adjustment at the infinity(∞) position.
   - Taking lens. —— 21
   - Viewing lens. —— 21

DISASSEMBLY SECTION

A. Disassembly of Exposure meter

1. Loosen and remove four setscrews(B31-1.7×4) and take off the accessory shoe set(1027 set), accessory shoe spring cover(1041) and accessory shoe spring(1042).
2. Take off two hanger plate setscrews(9008) so as to take out the hanger plate set (1029 set).
3. Pull the knob and then loosen and remove three setscrews(B21-1.7×3.5). Take off the film spool axis seat set(3071 set)(2pcs.).
4. Peel off the left side cover plate leather(1032) and unscrew and remove four setscrews(B13-2×4). Also disconnect the soldered portion and take out the exposure meter(4001).
5. Unscrew four setscrews(B71-1.7×3) for taking out the finder hood base frame set(5001 set).
6. When three setscrews(B13-2×4) and two Phillips type screws(C84-2×3) are taken off, then the exposure meter photocell set(4091 set) is taken off.
7. Loosen two setscrews(2H-1.4×1.3) and the meter photocell back cover(B-9).
8. Take off the meter battery cap(E-25) and also the photocell cover fixing nut (E-26), two setscrews(IS-1.4×2) and the meter switching ring(C-5). then the meter photocell cover set(4101 set) may be taken out.

Fig. 1



B. Disassembly of the right side plate

1. Remove the winding handle setscrew(3027) and also the winding handle set (3020 set) and handle arm washer(3024).
2. Remove the winding handle reversing button(3060), also two hanger plate setscrews(9008) and take out the hanger plate(1029 set).
3. Tear off the right side cover plate leather(1025).
4. Remove five setscrews(9001) and also the right side cover(1011 set).

Caution : Care should be taken so as not to drop, the winding shaft spring hit(3077), winding shaft spring(3039) and winding shaft gear set(3035 set) when taking out the right side cover(1011 set).

Fig. 2

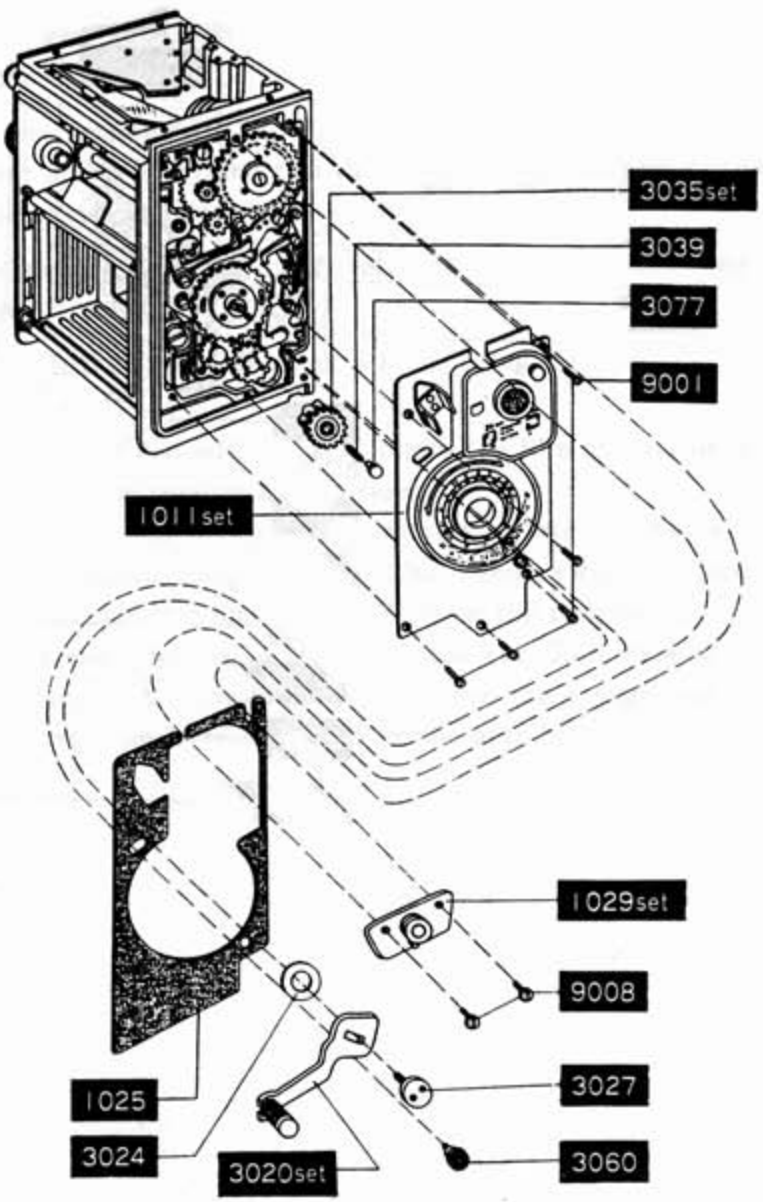
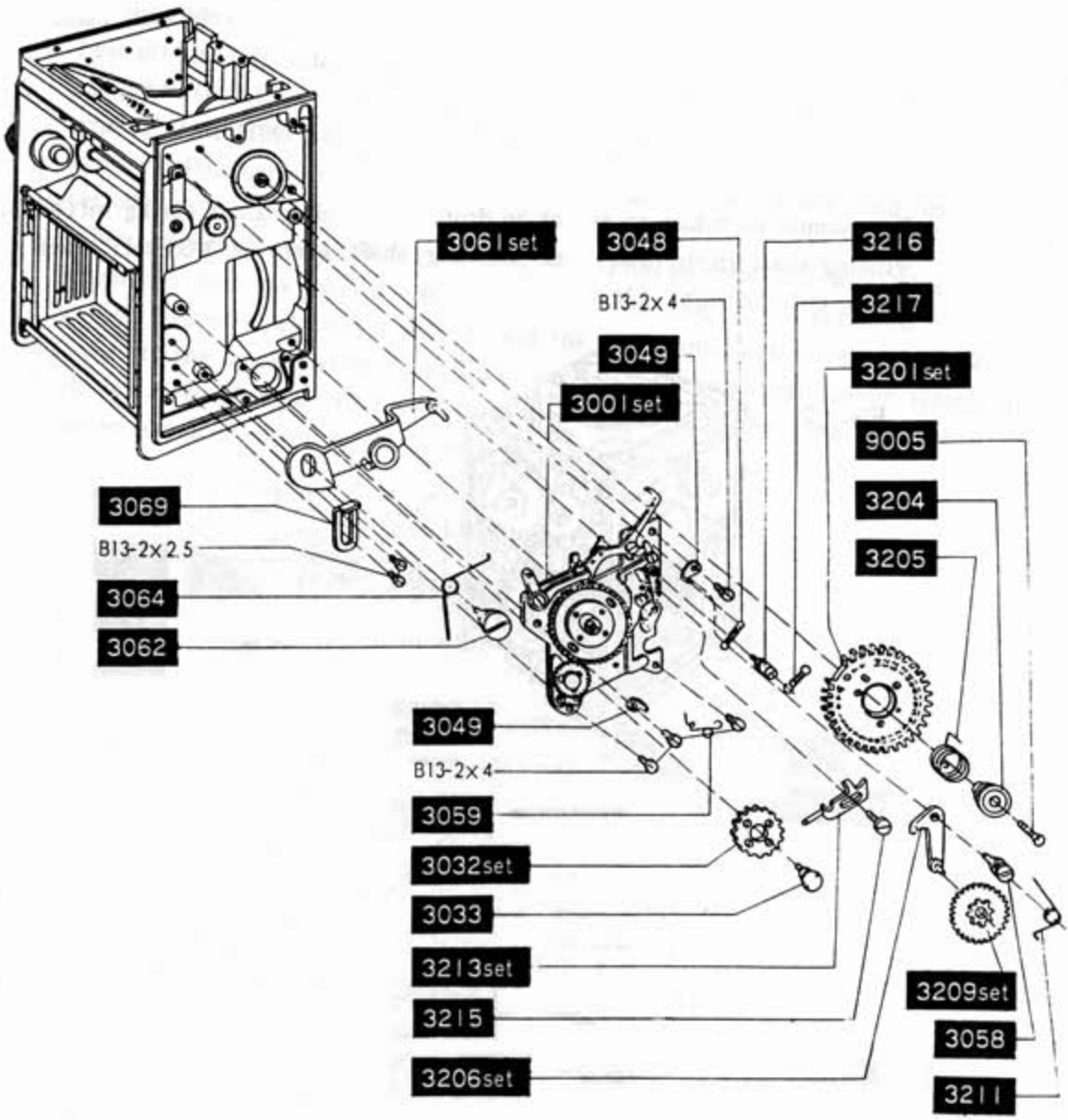


Fig. 3

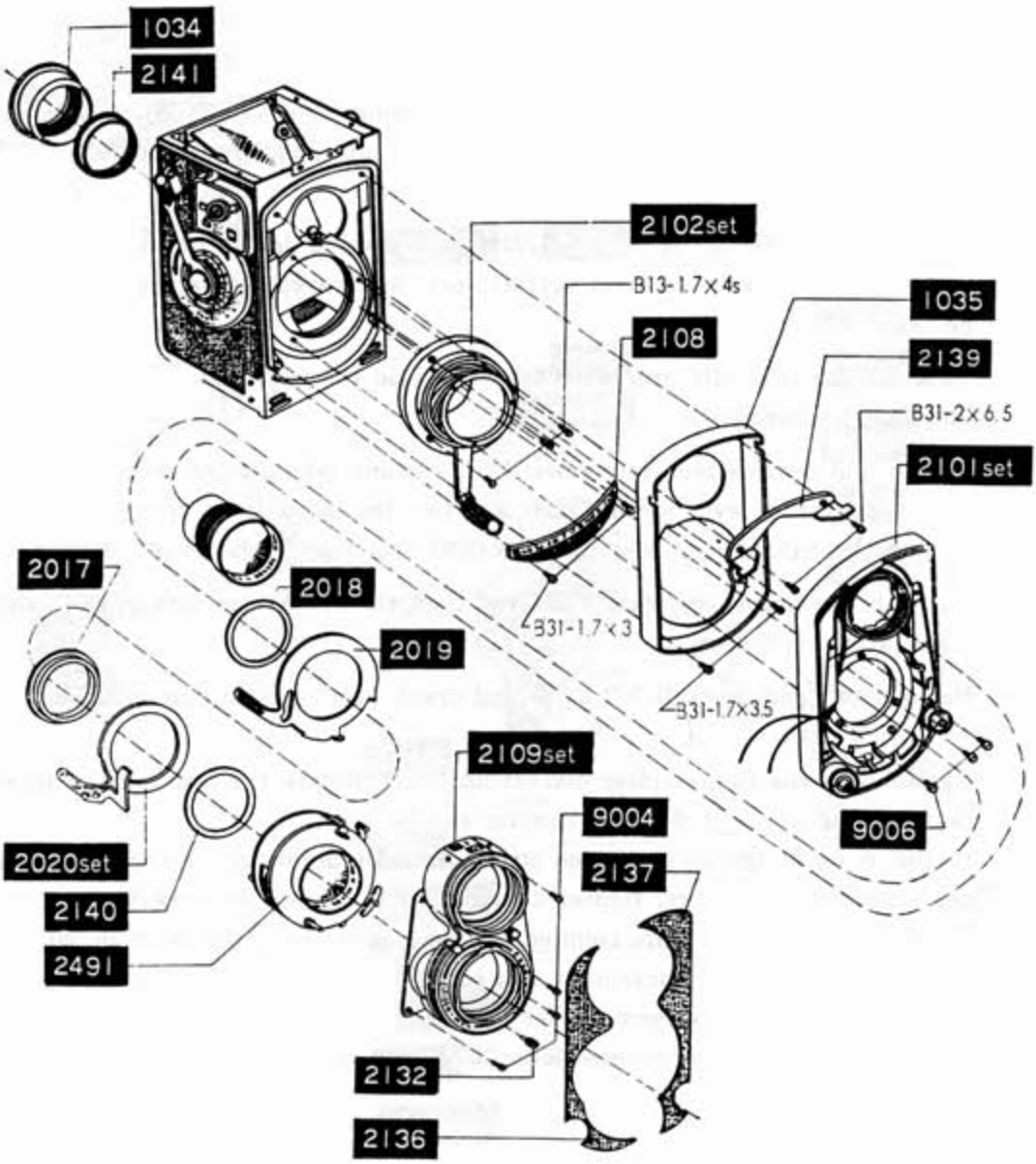

3061 set
3048
3216
B13-2x4
3217
3049
3201 set
3001 set
9005
3204
3069
B13-2x2.5
3205
3064
3062
3049
B13-2x4
3059
3032 set
3033
3213 set
3209 set
3215
3058
3206 set
3211

C. Disassembly of the film counter dial and the handle gear base plate

1. Disassembly the right side plate(see item B. Disassembly of the right side plate).
2. Take out the counter dial bush setscrew(9005), film counter dial bush(3204), film counter dial set(3201 set) and film counter dial spring(3205).
3. Open the back cover and take out the reversing lever axis(3058), middle gear holder spring(3211), middle gear set(3209 set) and middle gear holder set(3206 set).
4. Take off the reverse lever axis(3215) and reverse lever spring hook(3216) so that the counter reverse lever set(3213 set) and reverse lever spring(3217) may be taken out.
5. Take off the first idle gear axis(3033) and also the first idle gear(3032) and first idle gear washer(3034).
6. Loosen and remove four setscrews(B13-2×4) and take off the index lever spring (3048), reversing lever spring(3059) and two the index lever spring hook(3049) so that the handle gear base plate set(3001 set) may be taken off.
7. Take off the crank arm axis(3062) and then the crank arm spring(3064) and crank arm set(3061 set).
8. Remove two setscrews(B13-2×2.5) and crank arm adjusting plate(3069).

*Assembly of the film counter dial set(3201 set). Rotate the film counter up to the mark ◎ and check if the film counter can be reset.
In this case, if the spring is too strong, the durability of the stop pin will be decreased and, therefore, tighten the counter dial bush setscrew(9005) after rotating a quarter the film counter dial bush(3204) from the position where the spring force is zero by measuring this rotation with the eye. Take care so as not to permit the loose engagement between the gears. When the engagement is too loose, bend the counter reverse lever(3213) and middle gear holder(3206).

Fig. 4


1034
2141
2102set
B13-1.7x4s
2108
1035
2139
B31-2x6.5
2101set
2017
2018
2019
B31-1.7x3
B31-1.7x35
2109set
9004
2137
9006
2020set
2140
2491
2132
2136

D. Disassembly of the front cover and the shutter holder

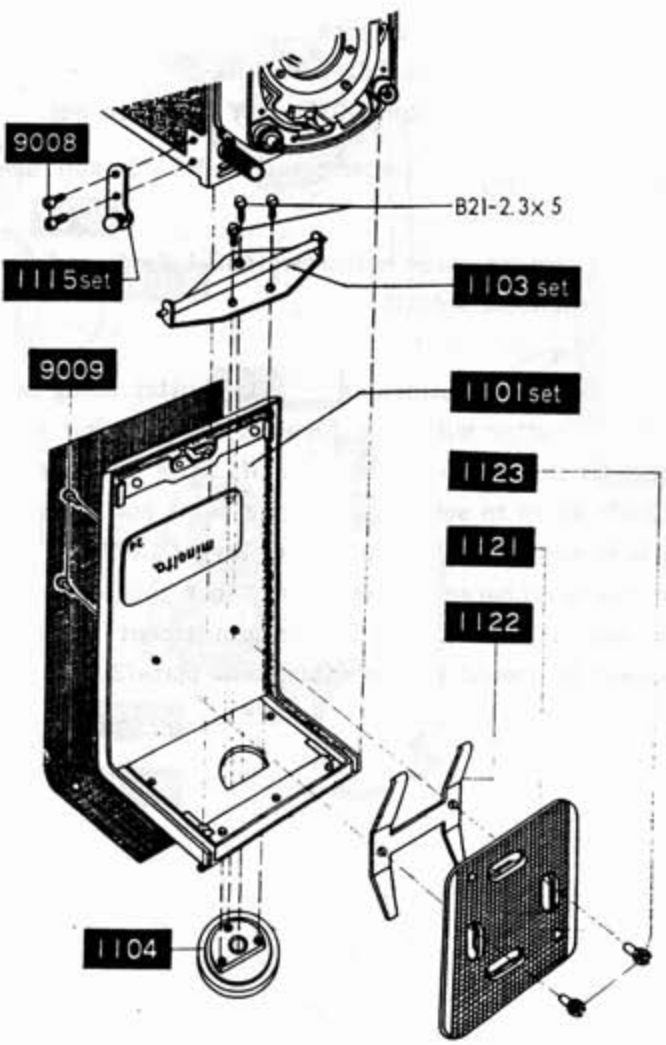
1. Tear off the front cover leather-A,B,(2136,2137), take off four setscrews(9004) and the M.X. changing knob(2132) so that the front cover set(2109 set) may be taken off.
2. Open the back cover and take out the light shield barrel(1034), shutter nut(2141) and shutter and also disconnect the soldered portions.
3. Take off successively the focus adjusting washer(2140), reset ring(2020), shutter seat(2017), charge ring washer(2018) and shutter charge ring(2019).
4. Loosen and remove three shutter holder setscrews(9006) and the shutter holder (2101 set).
5. Loosen and remove two setscrews(B31-2×6.5), the shutter holder guide plate (2139) and two setscrews(B31-1.7×3.5).
   Then, the inner base frame(1035) may be taken out.
6. Loosen and remove two setscrews(B31-1.7×3) and also take out the distance scale(2108).
7. Loosen and remove three setscrews(B13-1.7×4) and mark the body die cast as well as the helicoid set(2102 set).

*How to make an adjustment after the shutter being assembled :
Charge the shutter with the focusing lever being set at the near or closeup distance. If it fails to be charged, lift little by little the crank arm adjustment plate(3069) so as to select the charge point and then check if the reset ring arm (2021) is in contact with the shutter lever(3C002451) when the former is charged. Adjust the overcharge at the infinity (∞) position and confirm this adjustment at the near position also. If the adjustment is not sufficient, make further adjustment by means of the adjustment plate(3069).

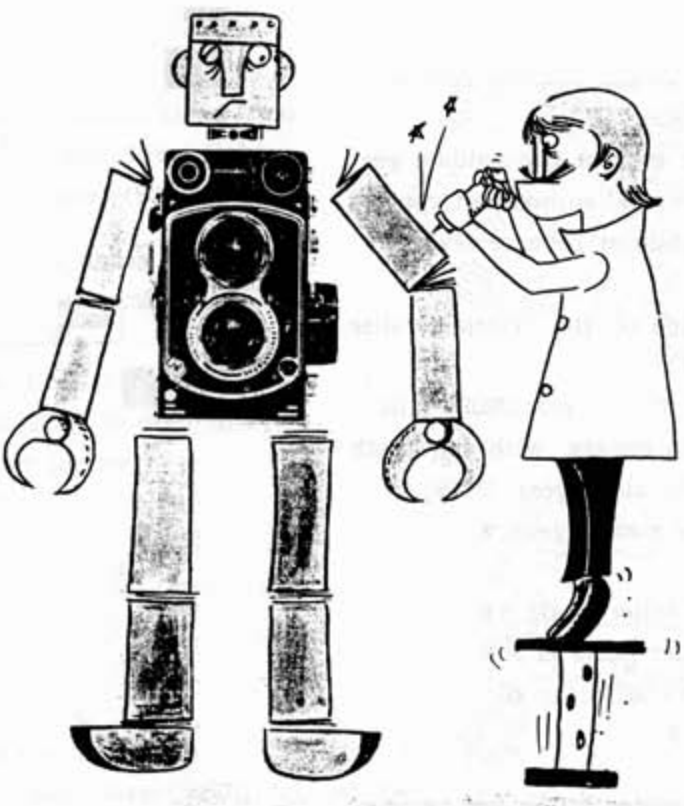
E. Disassembly of the back cover

1. Loosen and remove two hanger plate setscrews(9008) and the back cover fixing metal set(1115 set). (Either of the right or left members may be taken off).
2. Take off the back cover(1101 set).
3. Loosen and remove two pressure plate guides(1123) and also the film pressure plate(1121) and pressure plate spring(1122) and also two pressure plate guide setscrews(9009).
4. Loosen and remove three setscrews(B21-2.3×5) and also the film guide roller holder(1103 set). Then, the film guide roller holder(1103 set)may be taken off.

Fig. 5



REPAIR SECTION



F. Winding or film advancing

1. The film counter can not be advanced :

a) Mal-engagement of the middle gear (3209) with the film counter dial (3201).

Adjust the contor face of the middle gear holder (3206) and body sur face. When the actuation of the middle gear holder (3206) is found to be wrong, adjust so that the smooth action may be obtained. (see Fig. 6)

b) The middle gear (3209) being in contact with the counter reverse lever (3213).

Adjust the play of the middle gear holder (3206) and so may not contact with the counter reverse lever (3213).

c) Mal-rotation of the friction roller shaft (3218).

*When the middle gear (3209) fails smoothly to engage with the teeth of the roller shaft gear (3219), replace the middle gear with new one.

*When the roller shaft spring (3222) for the roller shaft is insufficiently bent, bend the spring to its normal state. (Fig. 9)

Fig. 6

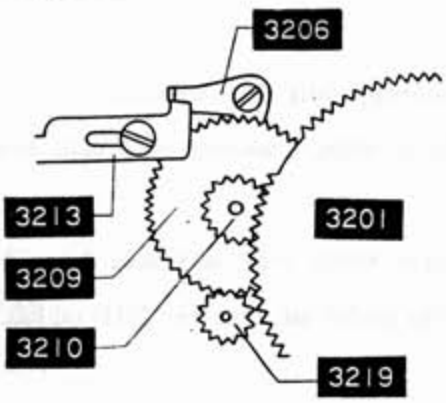


Fig. 7

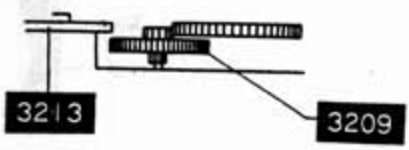
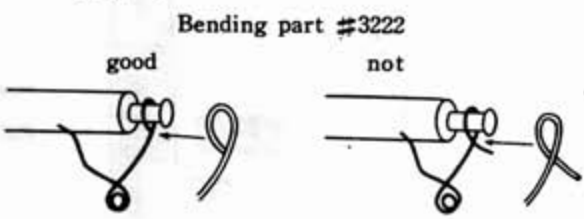


Fig. 8

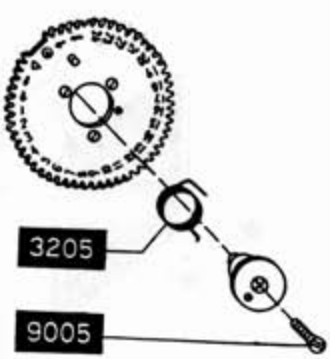


2. The film counter being not reset :

a) Malfunction of the counter reverse lever (3213).

Because the counter reverse lever (3213) fails to completely reset itself, the middle gear holder (3206) fails to function properly and is kept engaged with the film counter dial (3201). Therefore, the counter revers lever (3213) must be so adjusted to function smoothly and

Fig. 9



properly. If counter reverse lever is working not smoothly can be made by bending the contact face between the middle gear holder and counter reverse lever.

b) Disconnection of the film counter dial sprnig(3205).

c) Loosening of the counter dial bush setscrew(9005).
Rotate the counter dial(3201) counter clockwise until it stops and then rotate also the counter dial bush(3204) counter clockwise by a quarter of the circumferance from its original place and then tighten the dial bush setscrew(9005).

3. The warning mark being not seen even after the shutter has been charged :

This is due to the fact that the reset ring arm(2021) is disconnected from the shutter set lever.(see fig.11).

*In this case the reset lever is in contact with the outer periphery of the shutter as indicated the figure right. Bend the reset ring arm indicated by the dotted line for adjusument.

*Adjustment of the index lever(3040) and the middle hook lever(3050). When being the index lever in to the groove of index plate(3203) and when the handle is turn to the clockwise there should be a little space between the middle hook lever and the winding stop lever when they arebrought together very close and made contact with each other. (When this working must loading the test films) see the portion ⊛ in the figure 12.

Fig. 10

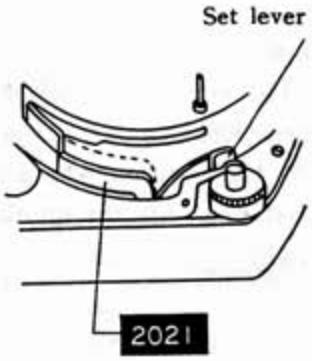


Fig. 11

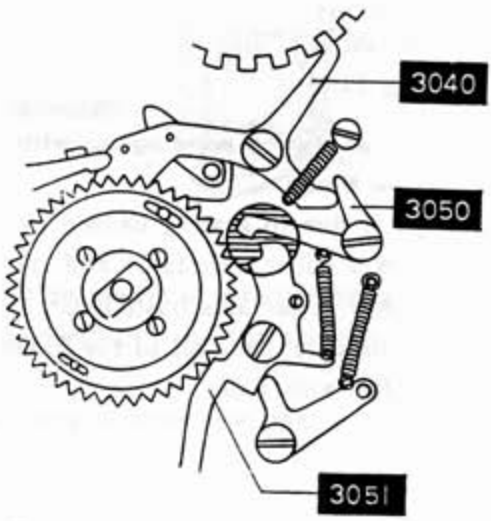


Fig. 12

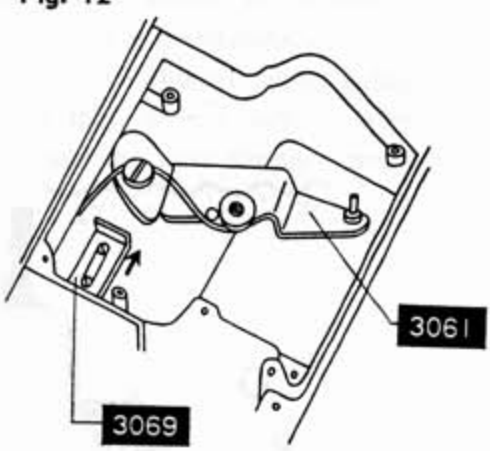
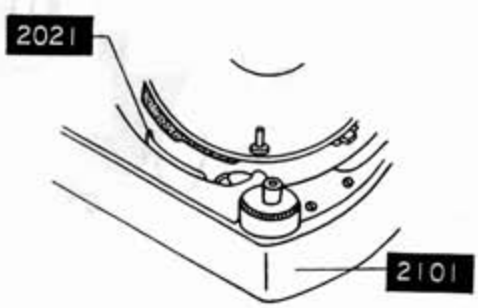


Fig. 13



4. Unsufficient shutter charge :

a) The crank arm adjusting plate(3069) is lowered too much so that the crank arm(3061) cannot actuate properly.

*At the position where it is possible to charge for the infinity and for the near distance, lift the crank arm adjusting plate(3069) about 1.2 to 1.7 mm and tighten the adjusting plate at this position. At this time winding handle must rotate smoothly.

b) The case in which the connection of the shutter installation or has much play.

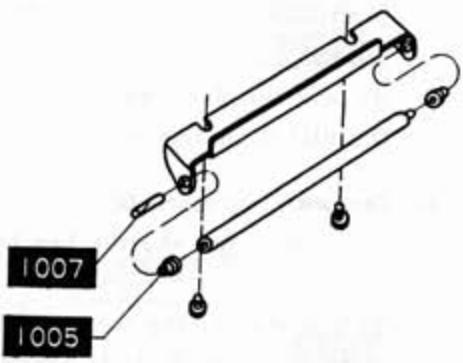
c) The reset ring arm(2021) is in contact with the shutter holder(2101). (see fig 14)

d) Bending of the crank arm(3061). When the crank arm is bended, so the shutter is not set. In this case, the crank arm must be replaced with a new one. (see fig 13)

Fig. 14

5. Noise during winding up with loading the film :

It is due to grating caused by the lower roller axis(1007) and the lower roller axis bush(1005), Lubricate some oil to the lower roller axis(1007).

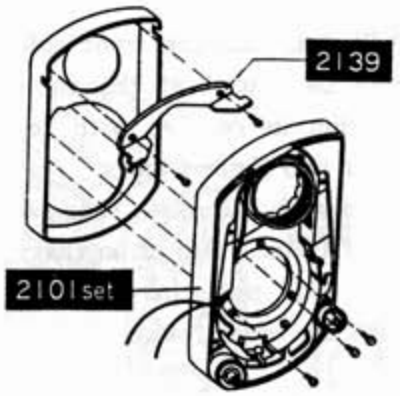


G. Front holder working

1. Play in both of the lateral and longitudinal directions of the shutter holder(2101).

This is because there exists too much space between the shutter holder guide plate(2139) and the shutter holder.

Fig. 15



a) When the setscrew for the shutter holder is loosened, tighten the screw.

b) Take off the shutter holder guide plate (2139) and punch the sliding face between the shutter holder (2101) and the shutter holder guide plate(2139) by means of a flat punch so that there may be no play between the shutter holder(2101) and the shutter holder guide plate(2139).

c) When helicoid is too much play, it must be replace with new one.

2. Infinity(∞) contact being improper.

a) The shutter holder makes contact with the shutter holder guide plate(2139). Grind the portion which makes contact by means of a grindstone.

b) Parallelism between the shutter holder(2101) and the shutter holder guide plate (2139) being improper. Grind the helicoid so that it may actuate smoothly without any play when set at the infinity(∞) and the near distance positions.

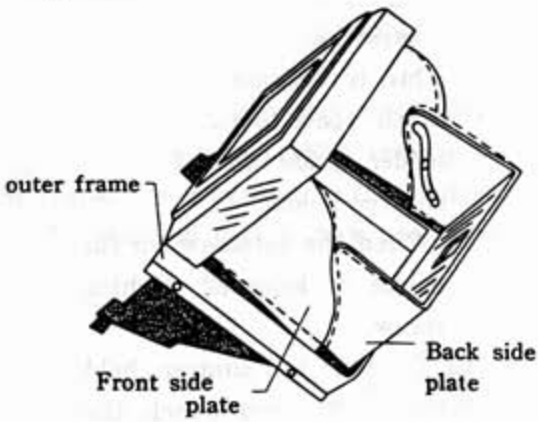
H. View-finder

1. Rubs when opened and closed.

a) The outer frame rubs with the front side plate :
Adjust so that the front side plate may be placed at the equidistant position in relative both to the outer and inner frames.

b) The back side plate rubs with the inner frame. Adjust so that the back side plate may not contact with the inner frame.

Fig. 16

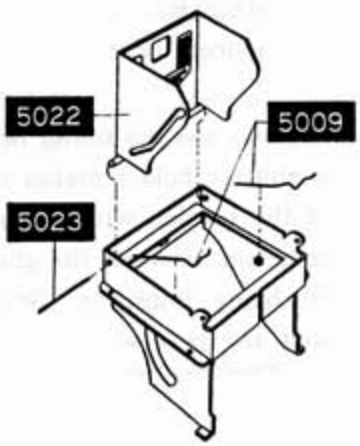


2. Malfunction of opening and closing of the viewfinder.

a) Disconnection of the front side plate operation spring(5009) :
Extend the front side plate operation spring(5009) a little so that it may not be disconnected. When it still disconnects after actuating a few times, it must be replaced with a new one.

b) Disconnection of the back side plate(5022).
This is caused by loosening of the fitting of the back side plate axis (5023). Therefore, bend and tighten the back side plate(5022).

Fig. 17

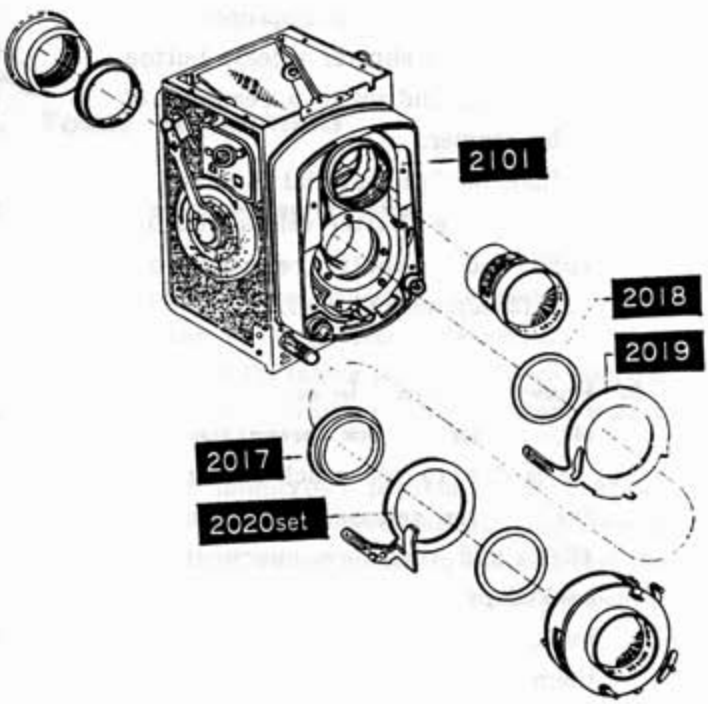


I. Shutter

1. The shutter release button being not released.

a) This is because the parallelism between the contact faces of the shutter holder (2101) and the charge ring (2019). Adjust the parallelism of the surface of the shutter holder so that the actuation may be effected smoothly. In this case, confirm that the focusing is right.

Fig. 18



b) When the shutter charge ring(2019) is distorted, adjust it by pliers.

c) Foreign material inserted between the actuating face between the shutter holder and the shutter charge ring. Take out the shutter charge ring washer(2018): shutter charge ring(2019), shutter sheet(2017) and reset ring (2020) and clean and then apply grease to them.

2. The shutter blades fails to open or close.

This is caused by the blot of oil on the shutter blades. Dismantle the shutter and wash the blades.

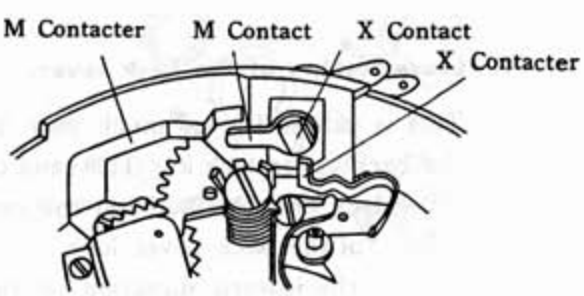
3. Short circuit.

a) The distance between the contacts being improper or being varied during operation.

*Widen the distance between the contacts by means of pincette, or adjust the shape of the contacts of MX if they are deformed.

*After adjusting the deformation of the MX contact, confirm the time lag and also the MX efficiency.

Fig. 19



b) Foreign material being inserted between the positive and negative contacts of the shutter terminal. Clean the both sides of the shutter terminal.

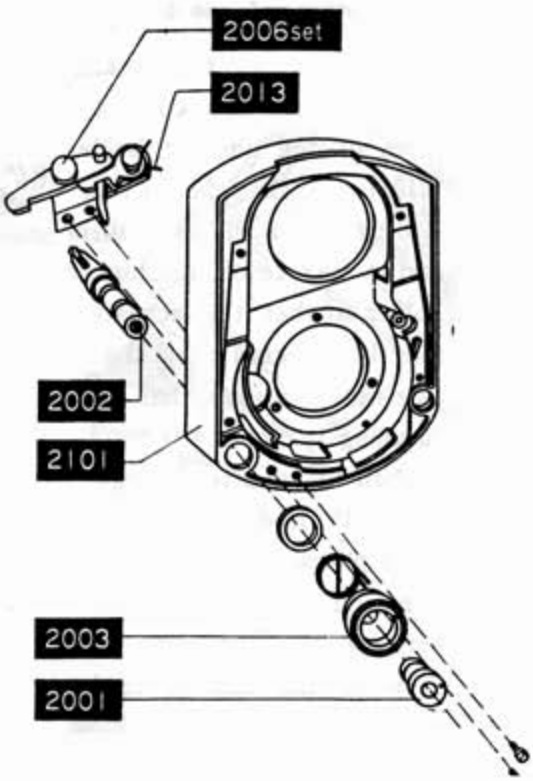
4. Malfunction of returning of the shutter release button.

a) The release lever-B spring(2013) is too weak so that it must be strengthened.

b) Fitting between the shutter release button(2001) and the shutter release button bush(2002) is improper.
Take off the shutter release button bush(2002) and make a reaming of it by reamer.

c) When foreign material is mixed in between the shutter release button (2001) and the shutter release button bush(2002), clean it off.

Fig. 20



5. Heavy resistance in actuating the shutter button lock spring(2003).

a) It is due to too much cauking of the shutter release button bush (2002) and therefore punch the cauked parts of the shutter release button bush(2002) without hurting them. Too much punch will cause a play of the shutter release button bush(2002).

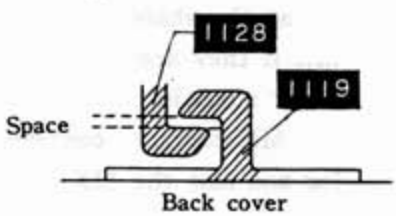
b) When the stop ring fails to stop, this must be replaced with a new one.

J. Back cover

1. Loose locking of the back cover.

This is caused by too much play between the back cover lock key(1128) and the back cover lock hook(1119). Bend the cauked portion of the back cover lock hook (1119) toward the inward direction of the back cover. But care should be taken so that the punched or bended pawl will become indecent.

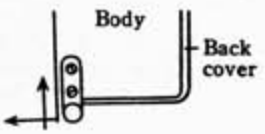
Fig. 21



2. Much space between the camera body and the back cover.

This is caused by the space at the lower portion of the back cover. The direction of installing the back cover fitting metal must be aligned with the arrow direction.

Fig. 22



K. Focus adjustment

1. Adjustment at the infinity(∞) position(A collimator being used).

a) Taking lens(T-lens).

*When the chart is out of focus at the infinity(∞) position and when the chart is focused clearly in the sate where the focusing lever is delivered, (another called back focus) this is due to the fact that the taking lens is too much inserted. Therefore, the adjustment must be made by applying a focus adjustment washer to the lens.

*When the chart is out of focus at the infinity(∞) position and furthermore when the chart is more out of focus in the state where the focusing lever is delivered, (another called front focus) the cause is due to the fact that the taking lens is in-serted too short. The adjustment should be made by pulling out the focus adjustment washer out of the taking lens.

b) Viewing lens(V-lens).

Open the finder and set the focusing lever at the infinity (∞) while watching the image focused on the ground glass. Then, make a necessary focus adjustment by delivering in or out the viewing lens. When properly focused, confirm that there is no out of focus due to the actuation of the focusing lever and when and if there is not such defect, tighten the lens barrel setscrew(B61-2×2s) and also hold the viewing lens in position.

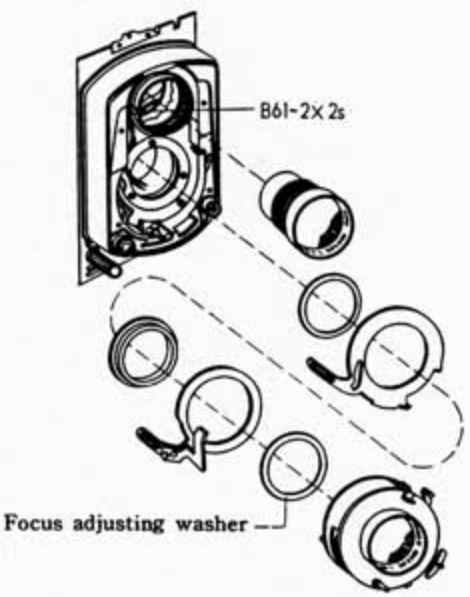



Fig. 23